

What is claimed is:

1. An isolated cDNA, or the complement thereof, comprising a nucleic acid sequence encoding a protein selected from:
 - a) amino acid sequence of SEQ ID NO:1,
 - b) an immunogenic fragment of SEQ ID NO:1, and
 - c) a variant of SEQ ID NO:1 having at least 90% sequence identity to SEQ ID NO:1
2. An isolated cDNA comprising a nucleic acid sequence selected from:
 - a) SEQ ID NO:2 or the complement thereof; and
 - b) a variant of SEQ ID NO:2 having at least 85% identity to SEQ ID NO:2.
3. A composition comprising the cDNA of claim 1 and a labeling moiety.
4. A vector comprising the cDNA of claim 1.
5. A host cell comprising the vector of claim 4.
6. A method for using a cDNA to produce a protein, the method comprising:
 - a) culturing the host cell of claim 5 under conditions for protein expression; and
 - b) recovering the protein from the host cell culture.
7. A method for using a cDNA to detect expression of a nucleic acid in a sample comprising:
 - a) hybridizing the composition of claim 3 to nucleic acids of the sample under conditions to form at least one hybridization complex; and
 - b) detecting hybridization complex formation, wherein complex formation indicates expression of the cDNA in the sample.
8. The method of claim 7 further comprising amplifying the nucleic acids of the sample prior to hybridization.
9. The method of claim 7 wherein the composition is attached to a substrate.
10. The method of claim 7 wherein complex formation is compared with at least one standard to determine differential expression.
11. A method of using a cDNA to screen a plurality of molecules or compounds, the method comprising:
 - a) combining the cDNA of claim 1 with a plurality of molecules or compounds under conditions to allow specific binding; and
 - b) detecting specific binding, thereby identifying a molecule or compound which specifically binds the cDNA.
12. The method of claim 11 wherein the molecules or compounds are selected from DNA

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molecules, RNA molecules, peptide nucleic acids, artificial chromosome constructions, peptides, transcription factors, repressors, and regulatory molecules.

13. A purified protein or a portion thereof produced by the method of claim 6 and selected from:

5 a) an amino acid sequence of SEQ ID NO:1;

b) an antigenic epitope of SEQ ID NO:1 from about amino acid S31 to about amino acid Q50 of SEQ ID NO:1; and

c) a variant of SEQ ID NO:1 having at least 90% amino acid identity to SEQ ID NO:1.

14. A purified protein comprising an amino acid sequence of SEQ ID NO:1

15. A composition comprising the protein of claim 13 and a pharmaceutical carrier.

10 16. A method for using a protein to screen a plurality of molecules or compounds to identify at least one ligand, the method comprising:

a) combining the protein of claim 13 with the molecules or compounds under conditions to allow specific binding; and

b) detecting specific binding, thereby identifying a ligand which specifically binds the protein.

17. The method of claim 16 wherein the molecules or compounds are selected from DNA molecules, RNA molecules, peptide nucleic acids, peptides, proteins, mimetics, agonists, antagonists, antibodies, immunoglobulins, inhibitors, and drugs.

18. A method of using a protein to prepare and purify a polyclonal antibody comprising:

a) immunizing a animal with a protein of claim 13 under conditions to elicit an antibody response;

b) isolating animal antibodies;

c) attaching the protein to a substrate;

20 d) contacting the substrate with isolated antibodies under conditions to allow specific binding to the protein;

e) dissociating the antibodies from the protein, thereby obtaining purified polyclonal antibodies.

19. A method of using a protein to prepare and purify a monoclonal antibody comprising:

a) immunizing a animal with a protein of claim 13 under conditions to elicit an antibody response;

b) isolating antibody-producing cells from the animal;

c) fusing the antibody-producing cells with immortalized cells in culture to form monoclonal antibody producing hybridoma cells;

30 d) culturing the hybridoma cells; and

e) isolating monoclonal antibodies from culture.

20. An isolated antibody which specifically binds to a protein of claim 13.

21. The antibody of claim 20, wherein the antibody is selected from an intact immunoglobulin molecule, a polyclonal antibody, a monoclonal antibody, a chimeric antibody, a recombinant antibody, a humanized antibody, a single chain antibody, a Fab fragment, an F(ab')₂ fragment, an Fv fragment; and an antibody-peptide fusion protein.

5 22. A polyclonal antibody produced by the method of claim 18.

23. A monoclonal antibody produced by the method of claim 19.

10 24. A method for using an antibody to detect expression of a protein in a sample, the method comprising:
a) combining the antibody of claim 20 with a sample under conditions which allow the formation of antibody:protein complexes; and
b) detecting complex formation, wherein complex formation indicates expression of the protein in the sample.

15 25. A method for using an antibody to detect expression of a protein in a sample, the method comprising:
a) combining the antibody of claim 20 with a sample under conditions which allow the formation of antibody:protein complexes; and
b) detecting complex formation, wherein complex formation indicates expression of the protein in the sample.

20 26. The method of claim 25 wherein complex formation is compared with standards and is diagnostic of a breast cancer.

27. A composition comprising an antibody of claim 20 and a labeling moiety.

28. A composition comprising an antibody of claim 20 and a pharmaceutical agent.